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Field Crops
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Canaryseed Production in Alberta

Canaryseed (*Phalaris canariensis*) or annual canary grass is used as feed for both domestic, caged and wild birds. Canaryseed is grown in North America, Argentina, Australia and Morocco. North American production is located mainly in Alberta, Saskatchewan, Manitoba and in the Red River Valley of North Dakota and Minnesota.

Description

Canaryseed is an annual grass, which stands up to one metre tall at maturity. It reaches maturity in 100 to 110 days or approximately the same number of days as hard red spring wheat.

The seedlings are spindly at emergence and begin tillering at the four-leaf stage. By the boot stage, canaryseed provides a dense cover. The seed head measures from 2 to 5 cm in length and the seed is similar to flax seed in size but slightly plumper. Canaryseed has a brown seed coat, which is covered by a thin, papery hull. Producers should try to retain the hulls on the seed when harvesting because the glossy yellow color of the hulls attracts the interest of birds.

Yields of canaryseed as high as 1800 kg/ha have been recorded in Alberta; however, average yields of 900-1100 kg/ha are more realistic for dryland production. The bushel weight of canaryseed is 22.5 kg.

Adaptation

Canaryseed is managed in the same way as hard red spring wheat. It should be planted on well-drained soils and will grow well on most soils except sandy ones. Canaryseed requires plenty of moisture to achieve maximum yields Dryland brown soils will, on average, produce only marginal yields. Growers find canaryseed is more tolerant of saline soils than wheat. In Alberta, canaryseed is adapted to the dark brown and black soil zones where the length of the growing season permits canaryseed to mature.

Seeding

Seeding should be done early (during the first two weeks in May) into a seedbed prepared in the same way as for flax — lightly cultivated and firm. Canaryseed can be seeded with any conventional seeder. The tiny seeds must be planted firmly into moist soil, but no deeper than 5 cm. The preferred seeding depth is 3.7 cm if soil moisture conditions are good. The recommended seeding rate is 30-40 kg/ha. Use the higher rate with discers and air seeders. Canaryseed can be seeded on fallow or stubble if sufficient soil moisture is present.

Varieties

Keet and Elias are the only registered varieties of canaryseed. They were developed in Minnesota and registered in Canada in 1983 and 1988 respectively. Elias yields better than Keet and it matures one day later. Elias has a slightly higher test weight. Other considerations such as lodging resistance, seed color and buyer preference appear to be similar between the two varieties.

Fertility

Canaryseed responds to nitrogen and phosphorus in much the same way as spring wheat and barley do. Similar amounts of these nutrients should be used. A soil test is the best guide for determining how much of each fertilizer is required.

Weed control

Chemical weed control is usually required by canaryseed because the small spindly seedlings develop slowly and compete poorly with weeds.

Several herbicides effectively control most of the common annual weed species found in canaryseed fields. A combination of herbicides will often be required

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to provide control of both grass and broadleaf weeds during the growing season. Follow the label recommendations for each herbicide exactly because they may differ from the more familiar application recommendations in cereal and oilseed crops.

Grassy weed control

Avenge - controls wild oats in the three- to five-leaf stage and before the canaryseed is past the six-leaf stage.

Mataven L - controls wild oats in the three-leaf to the flag leaf stage.

Stampede CM - controls green foxtail up to the three-leaf stage. It will also control numerous broadleaf weeds.

Broadleaf weed control

Spray for broadleaf weeds when the crop is in the three-leaf stage. This will give the best early season weed control at a time when the crop is most tolerant to herbicide application.

Banvel - controls a wide range of weeds, such as buckwheat, cow cockle and smartweed as well as giving top growth control of Canada thistle and perennial sow thistle. It can be tank mixed with MCPA Amine to give a wider range of control.

Buctril M - controls many broadleaf weeds, such as buckwheats, cow cockle, kochia, mustards, canola, stinkweed and Russian thistle.

Stampede CM - controls broadleaf weeds such as buckwheats, kochia, mustards, canola, stinkweed and smartweed.

Target - controls several broadleaf weeds including buckwheats, cow cockle, kochia, mustards, canola, smartweed, stinkweed and Russian thistle.

Herbicides containing diclofop methyl (Hoe-Grass, Hoe-Grass II) and metribuzin (Sencor, Lexone DF) suppress volunteer canaryseed in a subsequent wheat crop. Soil-incorporated EPTC (Eptam-8E) and trifluralin (Treflan) control canaryseed in succeeding oilseed and pulse crops. Fluazifop butyl (Fusilade) and sethoxydim (Poast) control volunteer canaryseed in broadleaf crops.

Precautions - Canaryseed is susceptible to damage by trifluralin and EPTC herbicide residues. Growers should wait at least two years before seeding canaryseed in fields where these products have been applied. Use MCPA instead of 2,4-D because 2,4-D (particularly mixed butyl ester formulations) have caused stunting, irregular growth and reduced seed yields.

Insect pests and diseases

Insect pests do not pose a problem to canaryseed production in Alberta. Canaryseed may occasionally be attacked by aphids during early stages of seed development. Aphids are easily controlled with Malathion.

Disease problems have not been reported by canaryseed producers in Alberta.

Irrigation

About 5 to 10 per cent of the total Alberta acreage of canaryseed is grown under irrigation. The irrigation requirements of canaryseed are similar to those of irrigated barley.

Harvesting

Canaryseed resists shattering and should be allowed to fully mature before it is harvested. Straight combining is the preferred method of harvesting, but swathing just before combining is equally effective. The crop is mature when the kernels are hard and the heads have turned to a white-beige color.

Set the cylinder speed of the combine at 600 to 750 rpm to reduce dehulling of the seed. Dehulled seed is considered dockage. The concave clearance should be set at 5 to 9 mm at the front and 3 to 5 mm at the rear. Enough wind should be used to keep the sample free of trash and chaff. Keep the lower sieve as far open as possible.

The dust from canaryseed is very irritating, especially on a hot day. A dust mask may be needed.

Canaryseed is classified as dry when it tests 12 per cent on a flax or soft white wheat chart. At 12 per cent moisture, canaryseed threshes cleanly from the head.

Production contracts

Canaryseed should only be grown with a production contract. The canaryseed market is volatile and subject to wide price and demand fluctuations, making production risky without a contract.

Several contracting companies are licensed in Alberta They offer producers a variety of production options. Production contracts provide minimum guaranteed prices, the opportunity of immediate cash for your product and stable cash flow for the farm.

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